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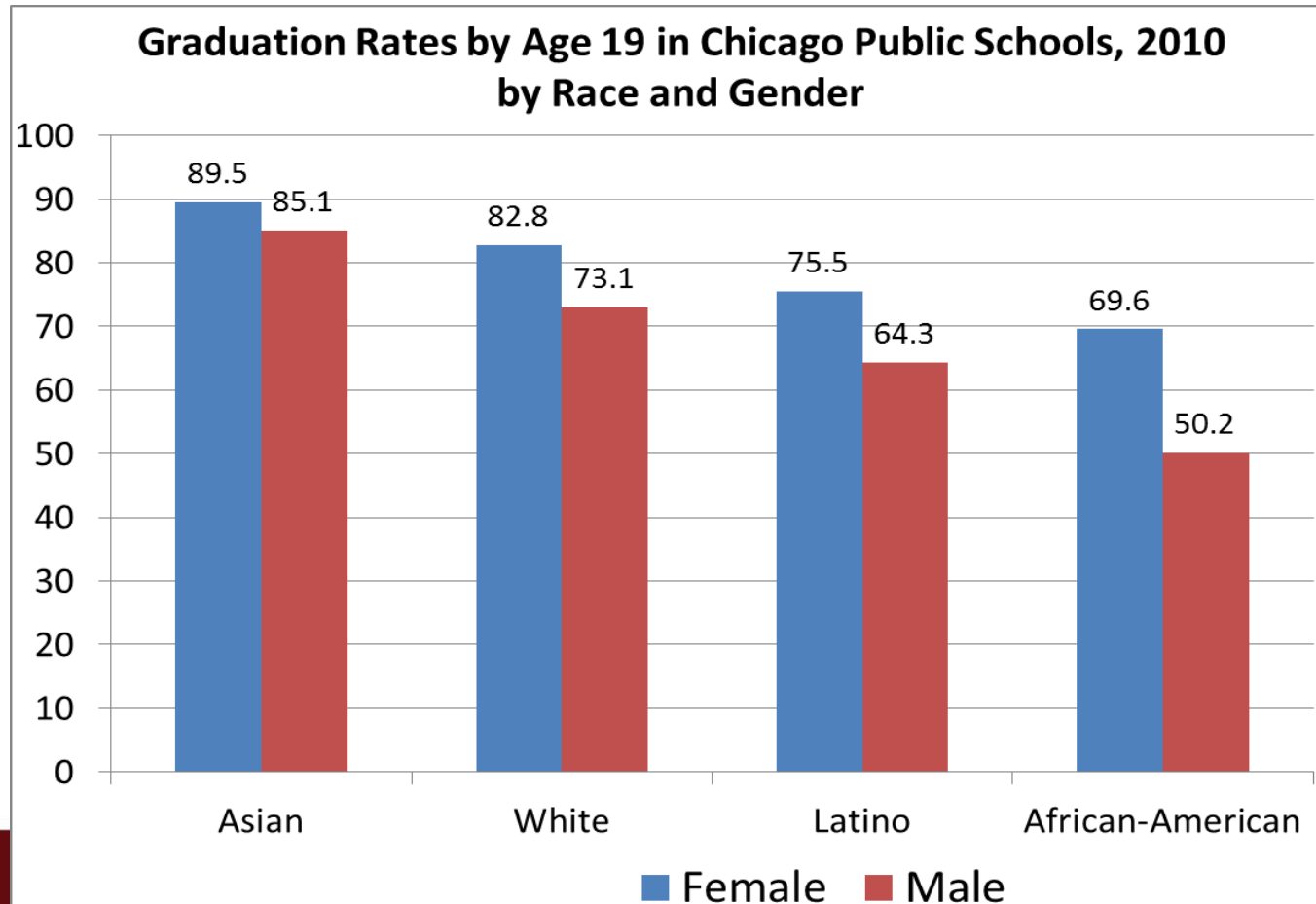SCHOOL RESEARCH

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Early Warning Indicators of High School Graduation and Dropout

Elaine Allensworth

Who will graduate?

A number of students' background characteristics have been associated with dropping out…

- **Gender**
- **Race**

Graduation Rates by Age 19 in Chicago Public Schools, 2010 by Race and Gender

	Female	Male
Asian	89.5	85.1
White	82.8	73.1
Latino	75.5	64.3
African-American	69.6	50.2

Who will graduate?

A number of students' background characteristics have been associated with dropping out…

- **Gender**
- **Race**
- **Poverty**
- **Test scores**
- **Mobility**
- **Over-age for grade**
- *Special education status*
- *ELL status in high school*

Background factors are related to graduation, but don't provide a good prediction of who will graduate

Indicator of Future Graduation/Dropout…	Prediction of graduates	Prediction of Non-graduates
Eighth grade test scores Race/ethnicity Economic status Gender Neighborhood poverty Mobility prior to high school Over-age for grade	**65%** correctly identified, using all background information	**48%** correctly identified, using all background information

The "on-track" indicator

A measure of progress during the <u>first year of high school</u>

- An on-track student has accumulated <u>five full course credits</u> (in any subject)

  – The number required to move to 10th grade in Chicago

- An on-track student has <u>no more than one semester F</u> in a core subject

  – English, math, science, or social studies

On-track by itself is a better predictor of graduation than background characteristics and test scores combined

Indicator of Future Graduation/Dropout…	Prediction of graduates	Prediction of Non-graduates
Eighth grade test scores Race/ethnicity Economic status Gender Neighborhood poverty Mobility prior to high school Over-age for grade	**65%** **correctly identified, using all background information**	**48%** **correctly identified, using all background information**
On-track in 9th grade	**80%** **correctly identified, using only the on-track indicator**	**72%** **correctly identified, using only the on-track indicator**

Background characteristics are related to graduation through course performance – not independently predictive

Indicator of Future Graduation/Dropout…	Prediction of graduates	Prediction of Non-graduates
Eighth grade test scores Race/ethnicity Economic status Gender Neighborhood poverty Mobility prior to high school Over-age for grade	**65%** correctly identified, using all background information	**48%** correctly identified, using all background information
On-track in 9th grade	**80%** correctly identified, using only the on-track indicator	**72%** correctly identified, using only the on-track indicator
All of the above	**81%**	**72%**

On-track is highly related to graduation

Four- and Five-Year Graduation Rates by Whether On-Track at the End of the Freshman Year
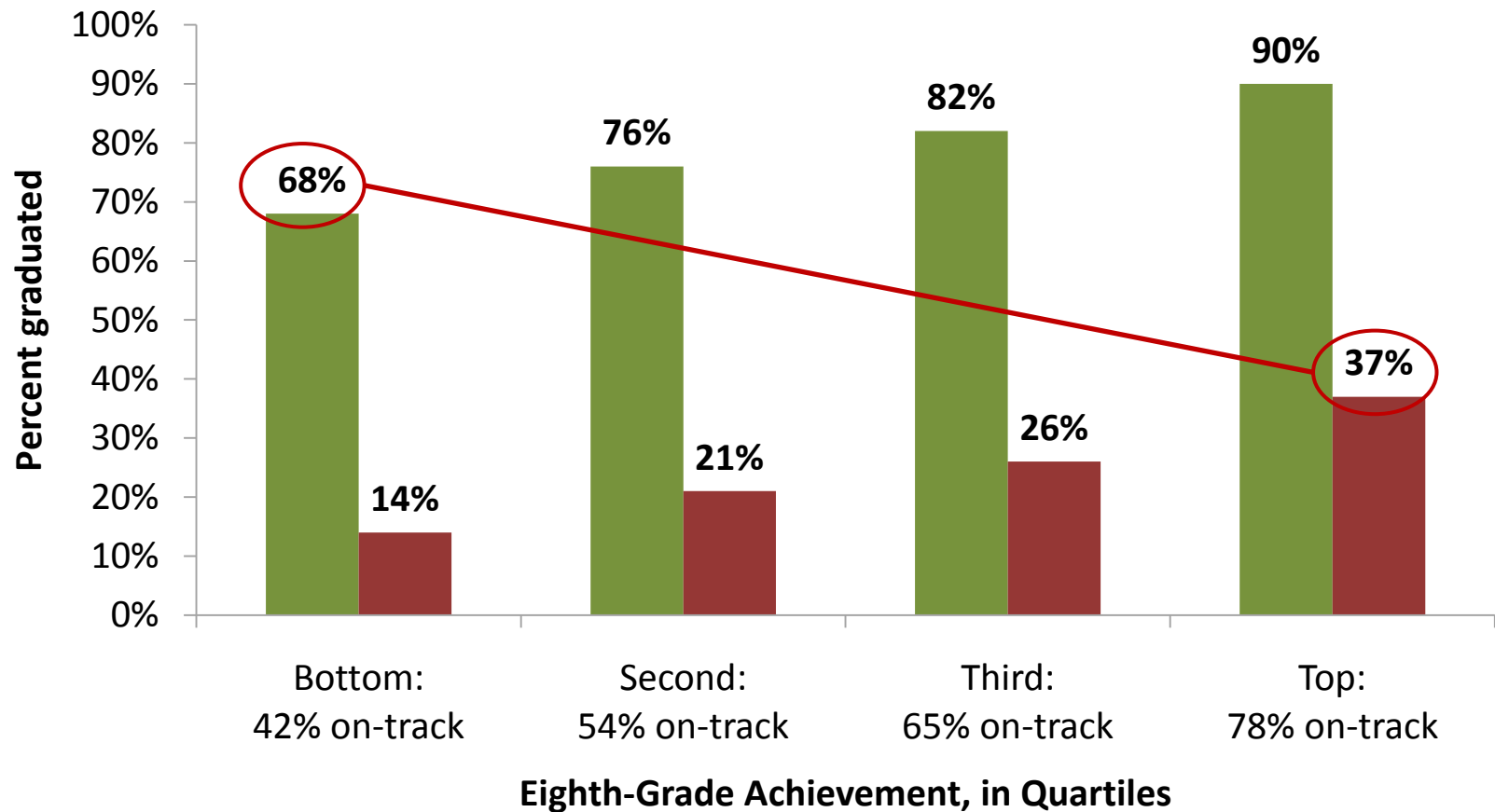
Students entering high school in September 1999
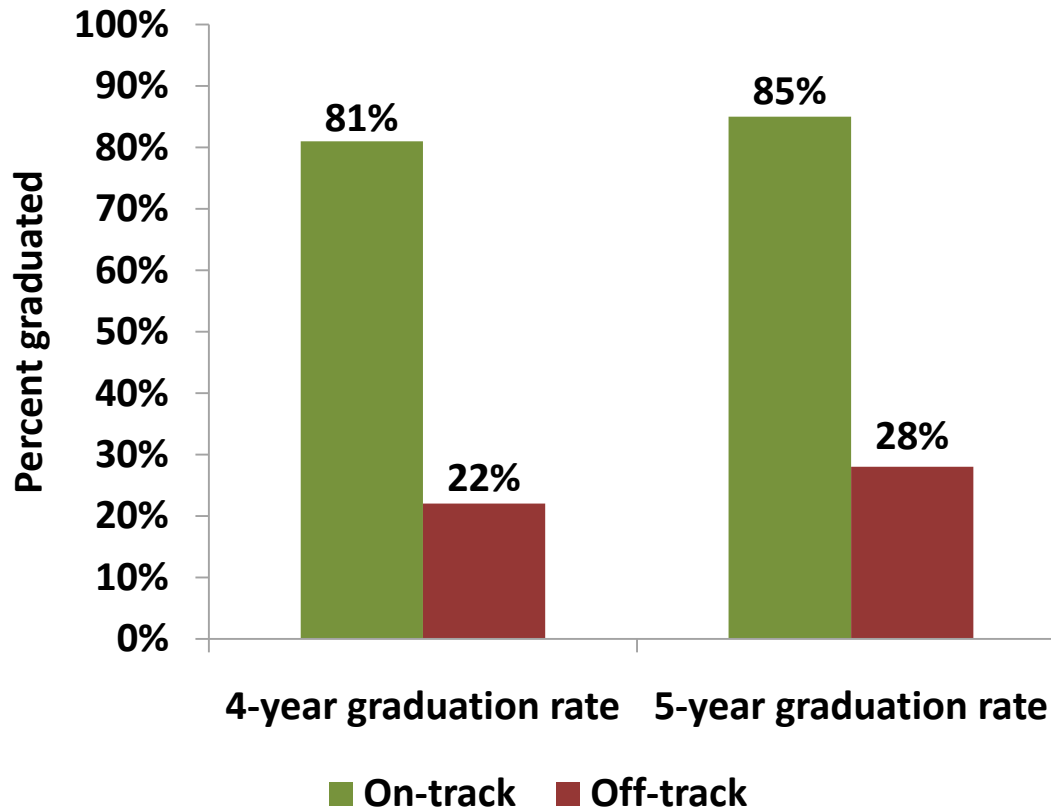
*9th graders who are on track are four times more likely to graduate than students who are off track

(Allensworth & Easton, 2005)

On-track is a better indicator than test scores

Four-Year Graduation Rates by On-Track Status after Freshman Year and Incoming Reading and Mathematics Achievement
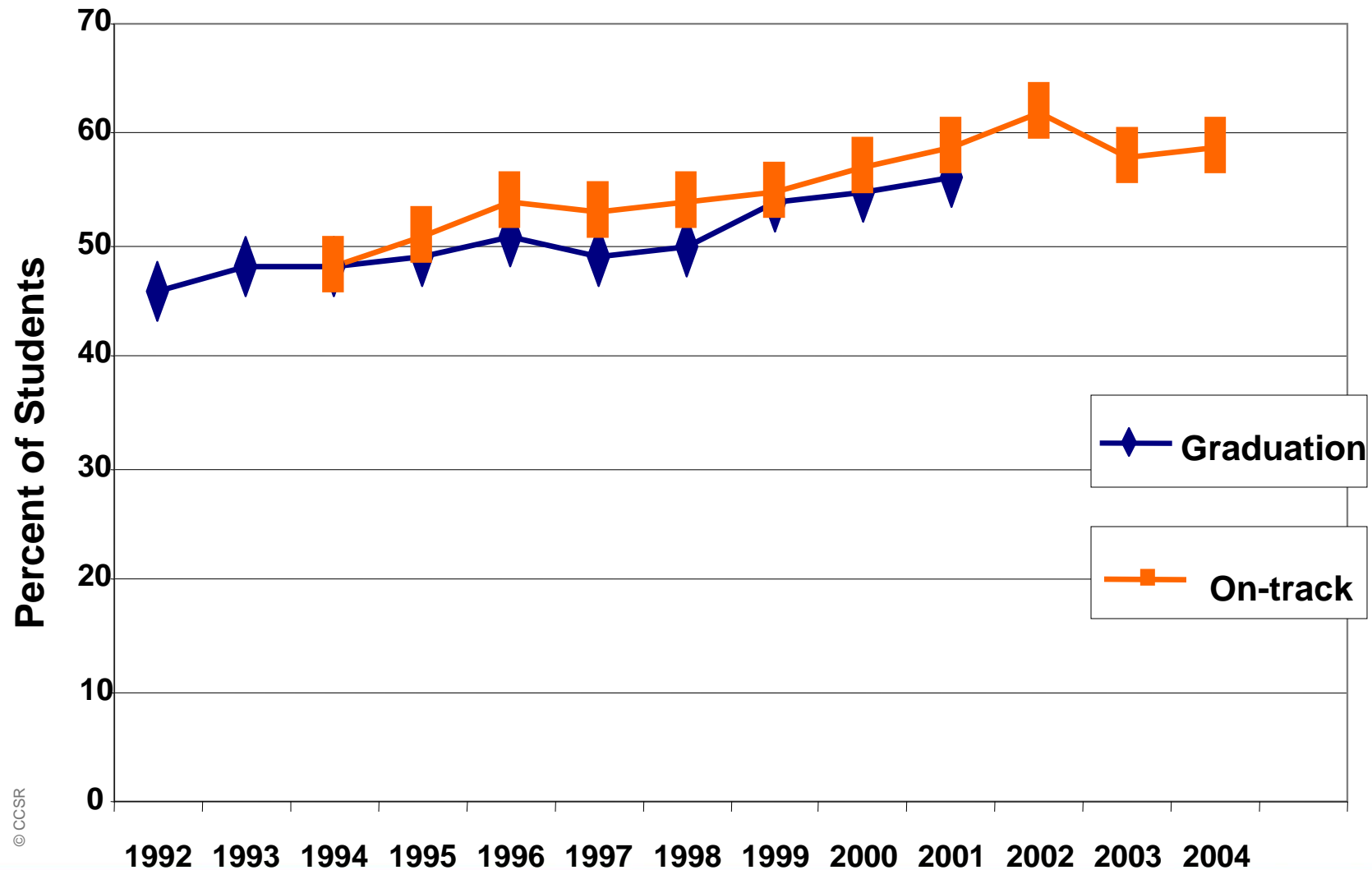
Students entering high school in September 2000

Percent graduated

| Eighth-Grade Achievement, in Quartiles | | | |
| Bottom: 42% on-track | Second: 54% on-track | Third: 65% on-track | Top: 78% on-track |

On-track: 68%, 76%, 82%, 90%
Off-track: 14%, 21%, 26%, 37%

■ On-track ■ Off-track

(Allensworth & Easton, 2005)

# Graduation and Freshman On-Track Rates

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Ninth grade absences, Fs and GPA are all strong predictors of eventual graduation

Indicator of Future Graduation/Dropout…	Prediction of graduates in 4 years	Prediction of non-graduates
Eighth grade test scores, mobility, overage, race, economic status, gender	65%	48%
On-track in 9th grade	**80%**	**72%**
9th Grade GPA	80%	73%
9th Grade Course Failures	80%	66%
9th Grade Absences	77%	59%

Freshman Year Grades & Failures Can Precisely Identify Students' Risk of Not Graduating

## Four-Year Graduation Rates by Freshman GPA
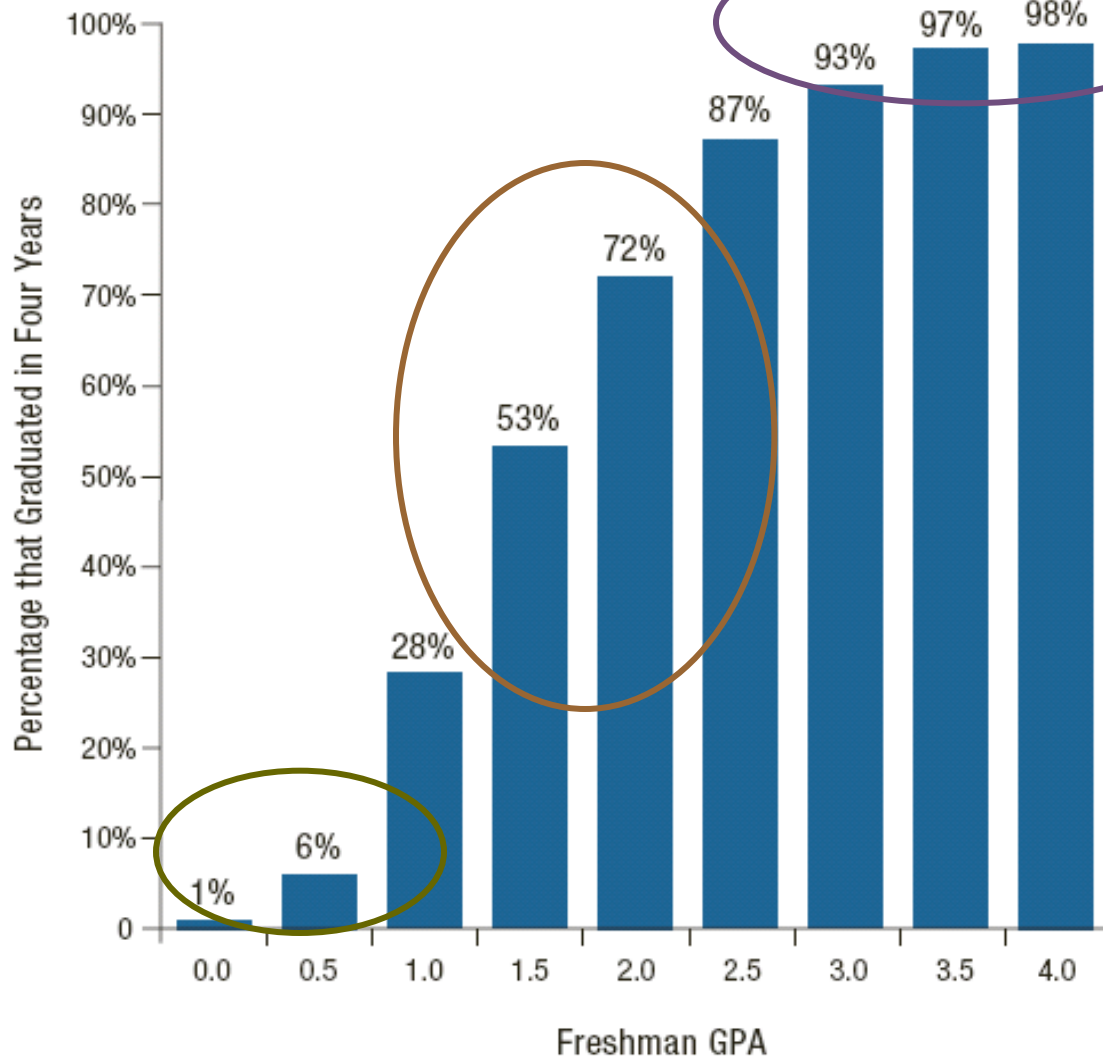
Virtually all students with a "B" average or higher in their first year will graduate in 4 years

Virtually all students with less than a "D" average in their first year will fail to graduate

Students with D+/C- GPAs could go either way

Percentage that Graduated in Four Years

- 0.0: 1%
- 0.5: 6%
- 1.0: 28%
- 1.5: 53%
- 2.0: 72%
- 2.5: 87%
- 3.0: 93%
- 3.5: 97%
- 4.0: 98%

Freshman GPA

Freshman Year Grades & Failures Can Precisely Identify Students' Risk of Not Graduating

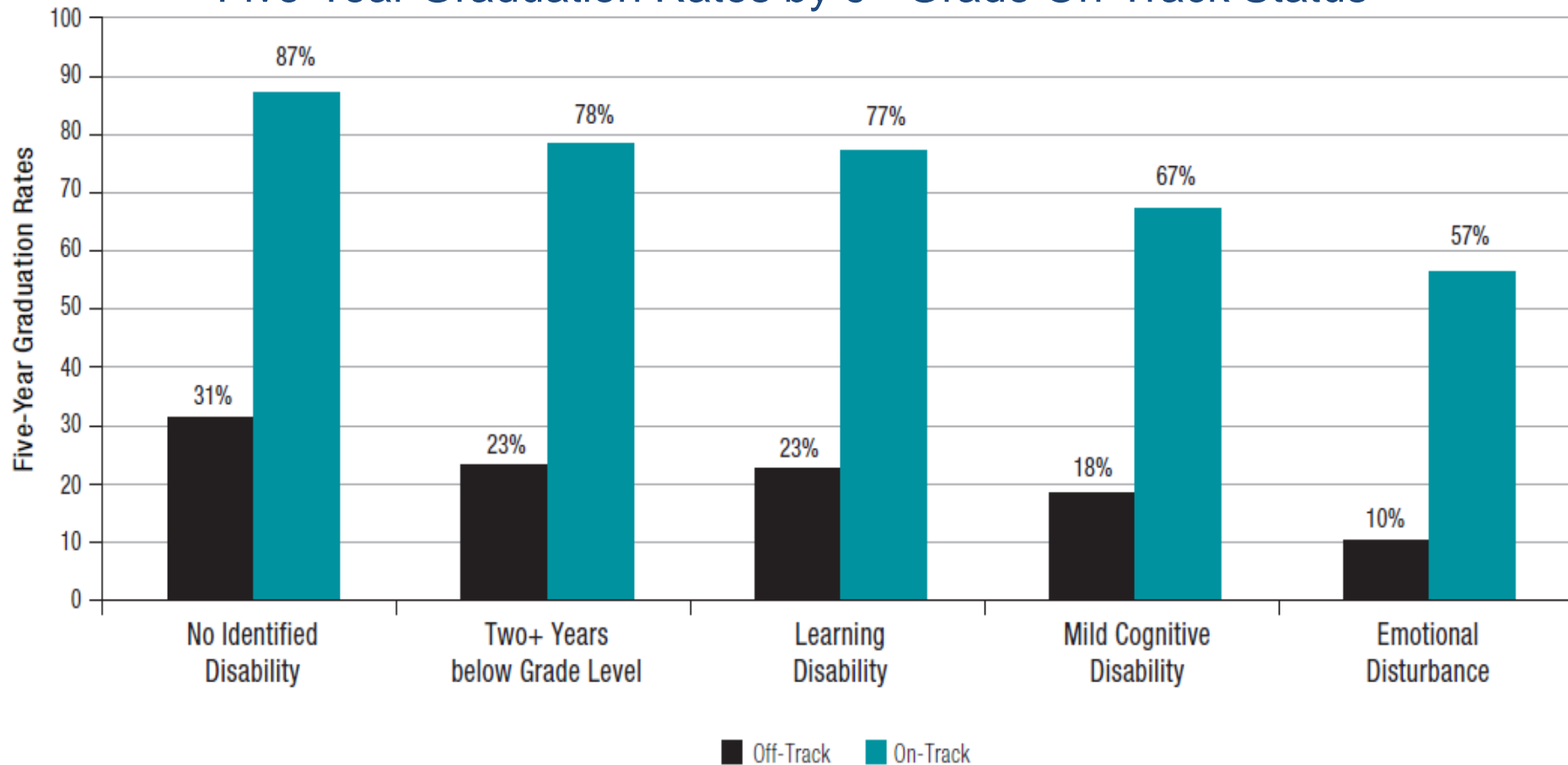Four-Year Graduation Rates by Freshman Course Failures
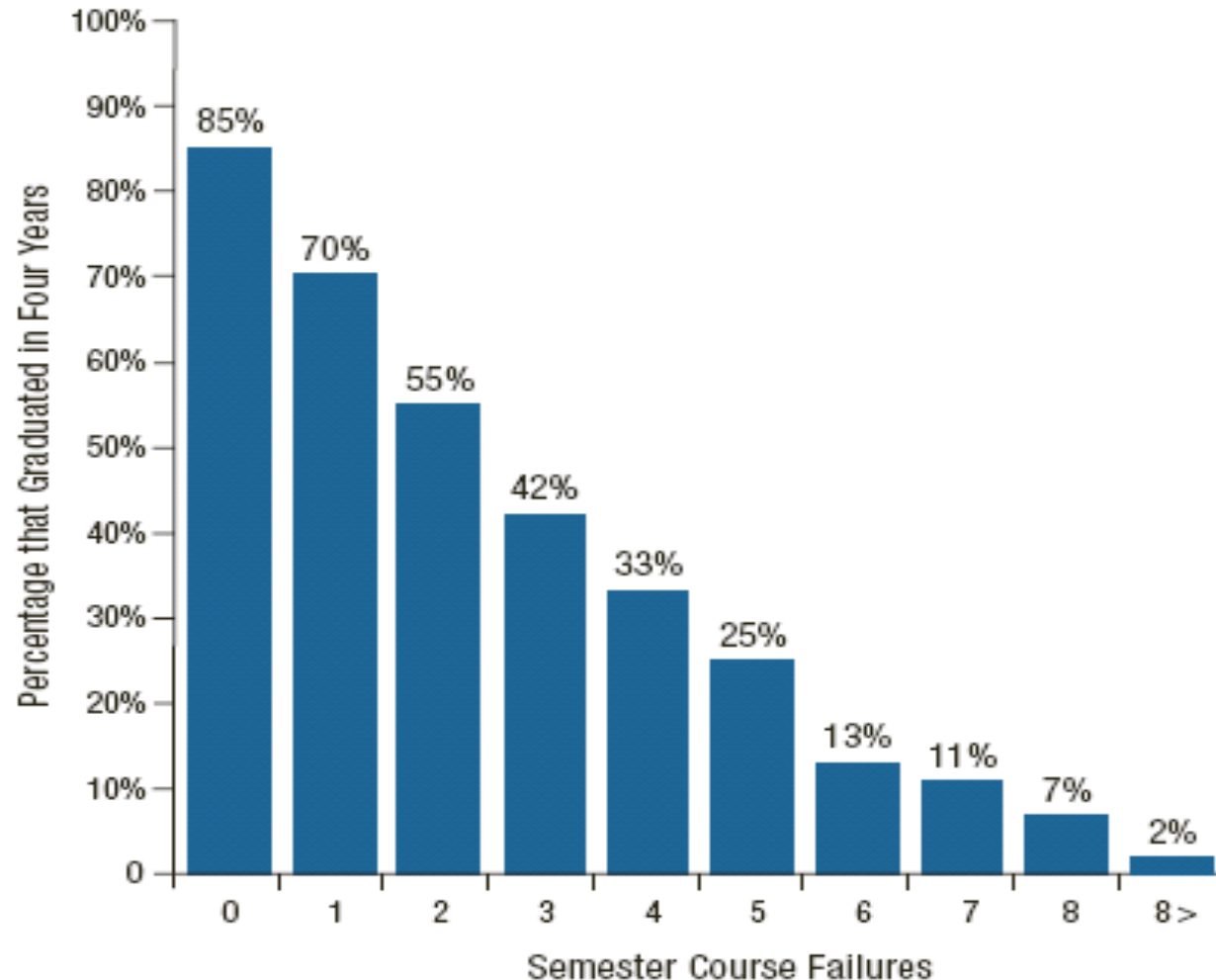
Freshman Year Grades & Failures Can Precisely Identify Students' Risk of Not Graduating
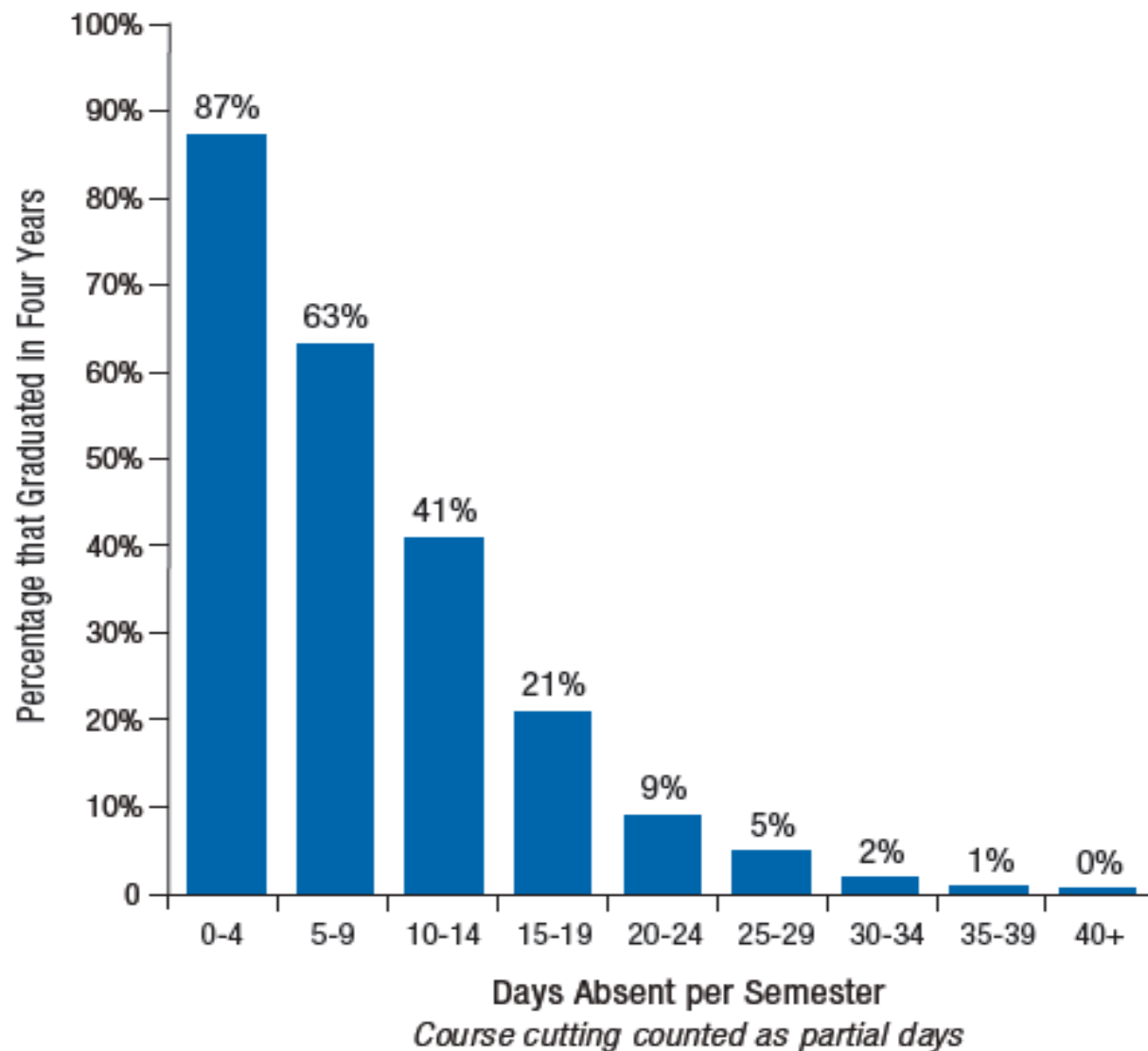
Ninth Grade indicators predict graduation in similar ways for Students with Disabilities

But SWDs are less likely to graduate because are at low end of on-track and off-track groups

Five-Year Graduation Rates by 9th Grade On-Track Status

|	No Identified Disability	Two+ Years below Grade Level	Learning Disability	Mild Cognitive Disability	Emotional Disturbance
Off-Track	31%	23%	23%	18%	10%
On-Track	87%	78%	77%	67%	57%

Students with Disabilities are Less Likely to Be On-Track in 9th Grade

- Differences are largely a result of high absence rates among SWD

- Students with learning disabilities and mild cognitive impairment also benefit less from time spent studying

Ninth Grade Indicators also Predictive for English Language Learners
But differences in graduation rates persist
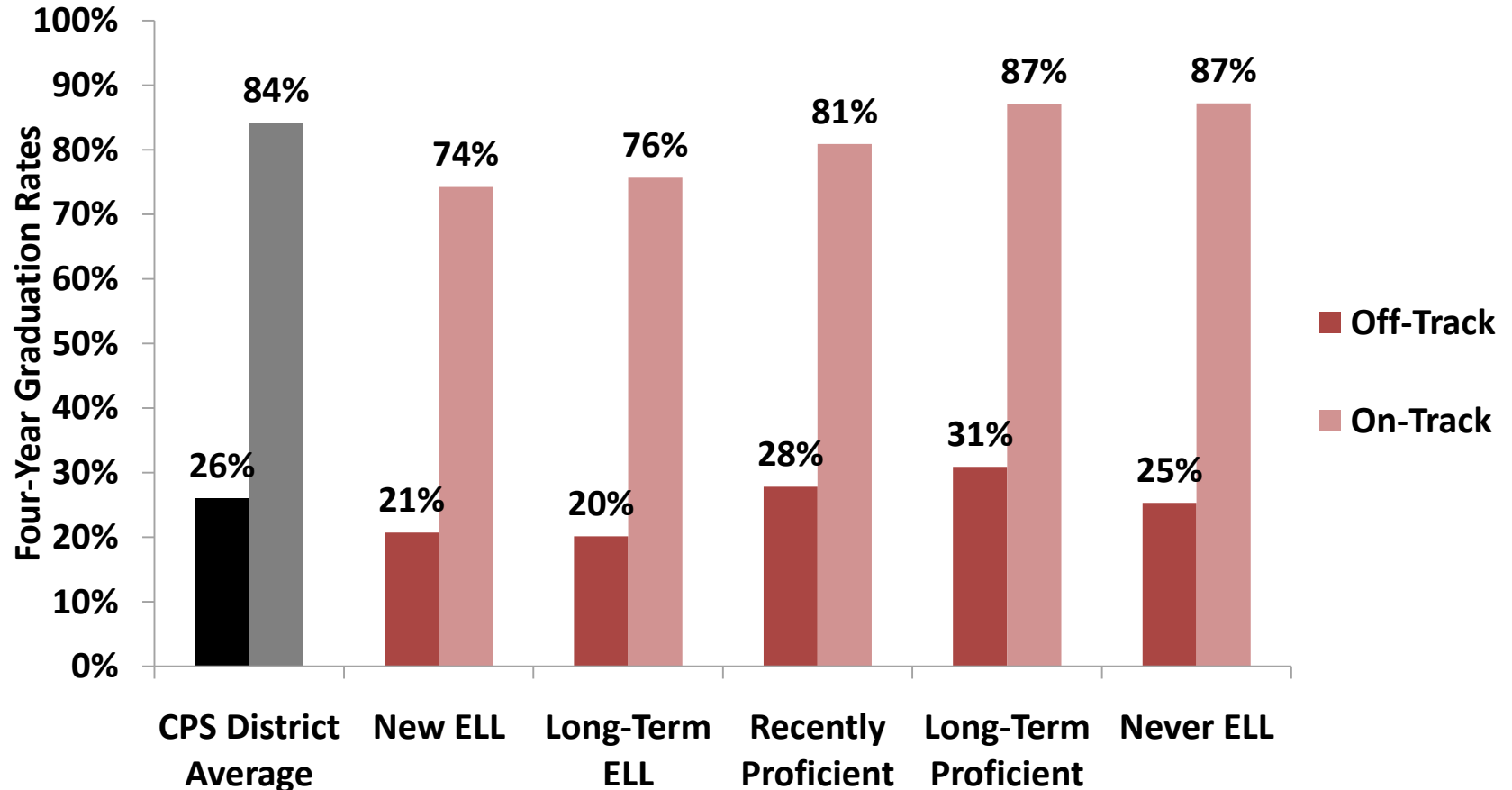
Bars in red only reflect Hispanic students in CPS.

What explains differences in graduation rates between 9ᵗʰ grade ELL and long-term proficient Hispanic students?

- **High School they attended**

- Age began high school – for ELLs who were newcomers to CPS in the middle grades or later

- Special education status, absences - for students who had been ELLs since the primary grades

- Educational aspirations

In 2008 Chicago Public Schools created a real-time data system around ninth grade indicators

- Data reports help schools monitor and support students

- CPS runs "On-Track Labs" to develop practices around the reports

- CCSR produces research flyers for parents and teachers, district distributes to all

- In 2009, schools in the Network for College Success begin using strategy reports

CPS Early Warning Reporting System:
'Hot' Data Supporting Data-Driven Leadership Development

Freshmen Watchlist

- List of incoming first-time freshmen with risk factors

- Populated with 8th grade data, including grades, attendance, EXPLORE scores, whether the student has an IEP, and feeder elementary school

✓ *Use in the summer and through the first quarter*

Freshmen Success Report

- On-going monitoring of all first-time freshmen

- Report tracks increases in risky behaviors (high absences, low course grades, high course failures)

✓ *Use after the first quarter throughout the year for first-time freshmen*

Credit Recovery Report

- List of all students who fall into the credit recovery target population

✓ *This report will be updated at the end of each semester and should be used to enroll students in credit recovery programs*

Snapshot of the CPS Freshmen Watchlist

Freshmen Watchlist

High_School	Student ID	Last Name	First Name	Age	Gender	IEP	Bridge Required	Attendance Intervention	Math Intervention	Reading Intervention	Explore Math	Explore Read	Math Grade	Read Grade	Unexcused absences	Feeder school
SAMPLE HS				15	female	Y	Y	N	Y	Y	.	.	D	D	9	BASS
				15	male	N	N	N	N	N	11	12	C	C	2	WENTWORTH
				15	male	N	Y	Y	Y	N	4	11	D	B	17	BOND
				14	male	Y	N	Y	N	N	5	10	B	B	22	KINZIE
				15	female	Y	N	N	N	N	.	.			1	SEXTON
				15	female	N	N	N	N	N	3	11	C	C	1	PARKER
				15	male	N	N	N	N	N	.	.	B	C	5	MAYS
				15	female	N	Y	Y	Y	N	7	10	D	C	13	BANNEKER
				15	female	N	N	N	N	N	10	12	C	C	1	PARKER
				15	female	N	Y	N	N	N	10	11	B	C	6	DENEEN
				15	female	N	Y	N	Y	Y	12	10	D	D	5	OGLESBY
				15	male	N	N	N	N	N	11	11	C	C	5	ATTUCKS
				15	male	N	N	N	N	N	14	13	B	B	4	NICHOLSON
				15	female	N	Y	Y	N	Y	13	10	C	D	15	PARK MANOR
				15	male	N	Y	Y	Y	N	10	11	F	C	44	DENEEN
				15	female	N	N	N	N	N	12	12	B	B	2	HARVARD
				15	male	Y	N	N	N	N	10	6	C	B	6	BOND
				14	female	N	N	N	N	N	.	.	A	B	4	OGLESBY
				15	male	N	Y	N	Y	Y	10	12	F	F	8	WENTWORTH
				14	male	N	N	N	N	N	14	10	C	C	1	CARTER
				15	male	Y	N	N	Y	Y	6	9	D	D	2	YALE
				15	male	N	N	N	N	N	12	12	C	C	4	BASS
				15	male	N	Y	Y	Y	Y	.	.	D	F	22	NICHOLSON
				15	female	N	Y	Y	Y	N	6	10	D	C	15	DENEEN
				15	female	N	Y	N	Y	Y	10	10	D	D	5	ABBOTT
				15	male	N	N	N	N	N	10	12	C	B	2	BOND
				15	female	N	Y	N	N	Y	11	14	C	D	4	HINTON

CPS Guide for Using Data Reports

GRADUATION PATHWAYS

Freshmen On-Track
A guide to help you keep your freshmen on track to graduate.

HANDBOOK

CONTENTS

Identifying systematic success and challenges

SUMMARY REPORTS FOR EVALUATING PRACTICES

Individual School Report

Amundsen
2002-2009 Freshmen

Getting On-Track
Understanding Freshman Performance at Amundsen

Nicholas Montgomery and Melissa Roderick with Alissa Bolz

INSIDE THIS REPORT

Amundsen First-Time Freshmen

66%   WERE ON-TRACK in 2001-02
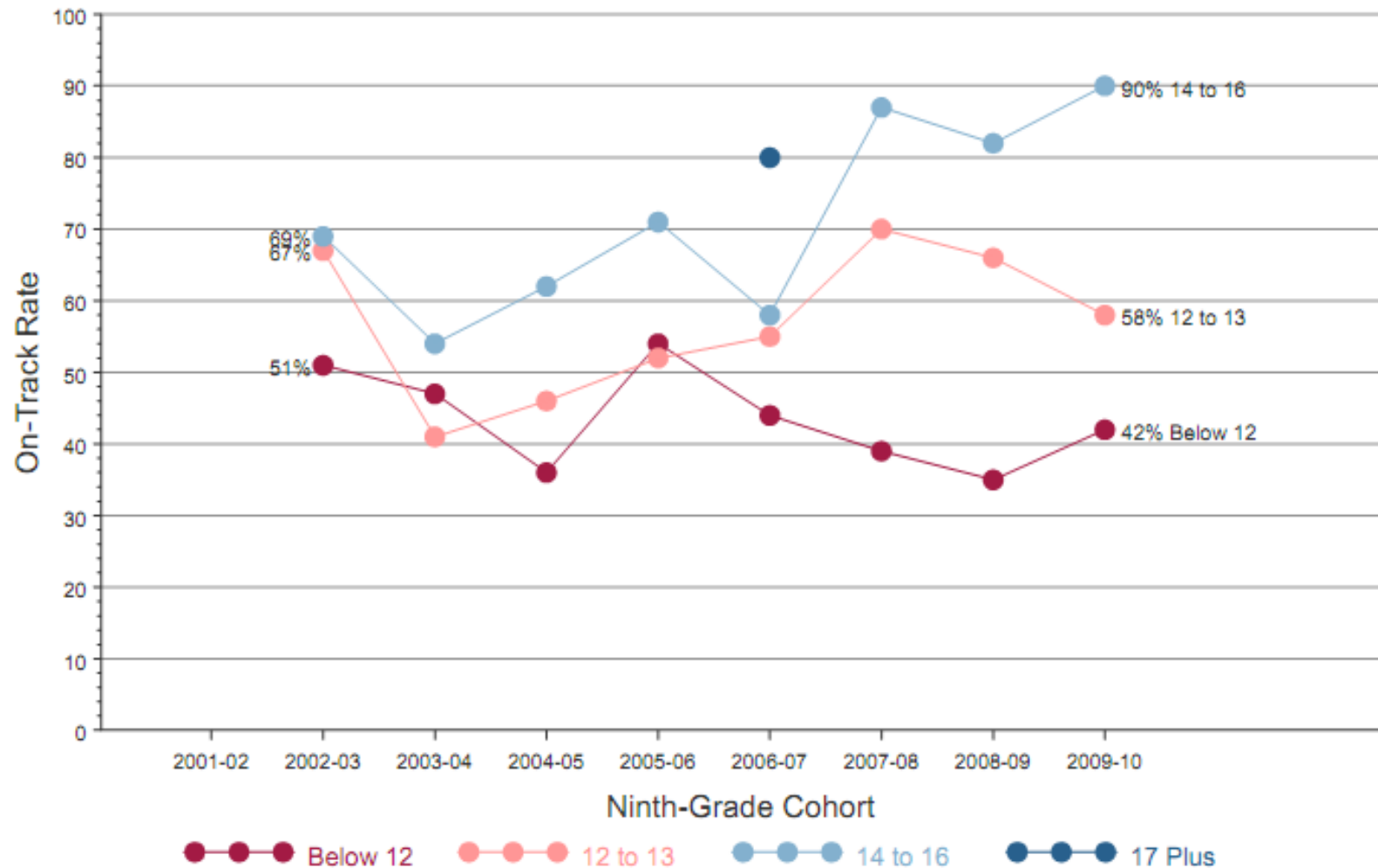76%   WERE ON-TRACK in 2008-09

at the end of their freshman year

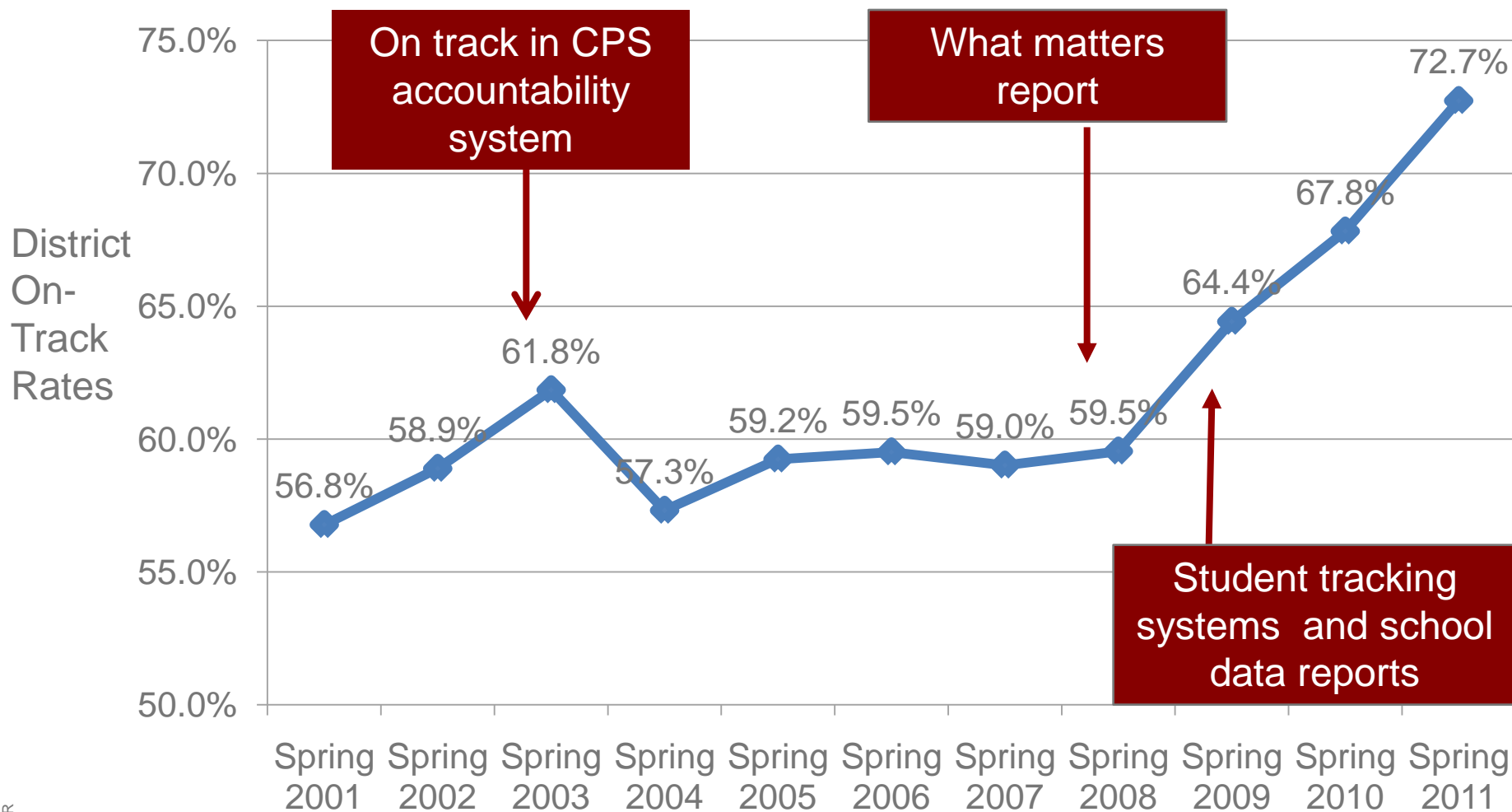# Reports Show How School Practices Affect Students

On-Track Over Time by EXPLORE
Did on-track rates differ by ninth-grade EXPLORE scores?
2002 to 2010 Ninth-Graders at Manley

On-track rates improved when schools had tools that made it easy to use validated indicators

Three ways the research and indicator reports help schools to better address graduation

- They focus conversations and effort among staff, parents and students on actionable problems that really matter for graduation

- They identify the right students for support
  - Make sure students don't fall through the cracks

- They identify patterns in student performance so schools can address problems strategically